Available online at www.sciencedirect.com
SCIENCE DIRECT®
ELSEVIER
Experimental Gerontology 38 (2003) 1379–1387
Experimental Gerontology
www.elsevier.com/locate/expgero

VOLUME 38

R. E. Falvo and A. Bartke	1	Proceedings of the Sixth International Symposium on the Neurobiology and Neuroendocrinology of Aging. Bregenz, Austria, July 21–26, 2002
R. E. Falvo	3	In Memoriam: Eduard Schönbaum 1923–2000
J. Campisi	5	Cellular senescence and apoptosis: how cellular responses might influence aging phenotypes
G. Wick, P. Berger, P. Jansen-Dürr and B. Grubeck-Loebenstein	13	A Darwinian-evolutionary concept of age-related diseases
C. L. Rauser, L. D. Mueller and M. R. Rose	27	Aging, fertility, and immortality
J. A. Mattison, M. A. Lane, G. S. Roth and D. K. Ingram	35	Calorie restriction in rhesus monkeys
J. A. Zimmerman, V. Malloy, R. Krajcik and N. Orentreich	47	Nutritional control of aging
A. J. Hung, M. G. Stanbury, M. Shanabrough, T. L. Horvath, L. M. Garcia-Segura and F. Naftolin	53	Estrogen, synaptic plasticity and hypothalamic reproductive aging
C. A. Erickson and C. A. Barnes	61	The neurobiology of memory changes in normal aging
M. Gallagher, J. L. Bizon, E. C. Hoyt, K. A. Helm and P. K. Lund	71	Effects of aging on the hippocampal formation in a naturally occurring animal model of mild cognitive impairment
C. E. Bandtlow	79	Regeneration in the central nervous system
J. Mazelová, J. Popelar and J. Syka	87	Auditory function in presbycusis: peripheral vs. central changes
B. Pakkenberg, D. Pelvig, L. Marner, M. J. Bundgaard, H. Jørgen G. Gundersen, J. R. Nyengaard and L. Regeur	95	Aging and the human neocortex
J. A. Dykens, J. W. Simpkins, J. Wang and K. Gordon	101	Polycyclic phenols, estrogens and neuroprotection: a proposed mitochondrial mechanism
R. Norbury, W. J. Cutter, J. Compton, D. M. Robertson, M. Craig, M. Whitehead and D. G. Murphy	109	The neuroprotective effects of estrogen on the aging brain
B. P. Lockhart and P. J. Lestage	119	Cognition enhancing or neuroprotective compounds for the treatment of cognitive disorders: why? when? which?
D. McCulloch and D. Gems	129	Body size, insulin/IGF signaling and aging in the nematode *Caenorhabditis elegans*
M. Barbieri, M. R. Rizzo, D. Manzella, R. Grella, E. Ragno, M. Carbonella, A. M. Abbatecola and G. Paolisso	137	Glucose regulation and oxidative stress in healthy centenarians
M. Racchi and S. Govoni	145	The pharmacology of amyloid precursor protein processing

doi: 10.1016/S0531-5565(03)00311-5

F. Lezoualc'h and S. J. Robert	159	The serotonin 5-HT_4 receptor and the amyloid precursor protein processing
R. W. H. Verwer, R. E. Baker, E. F. M. Boiten, E. J. G. Dubelaar, C. J. M. van Ginkel, A. A. Sluiter and D. F. Swaab	167	Post-mortem brain tissue cultures from elderly control subjects and patients with a neurodegenerative disease
P. Arlotta, S. S. Magavi and J. D. Macklis	173	Molecular manipulation of neural precursors in situ: induction of adult cortical neurogenesis
H. Ooboshi, S. Ibayashi, J. Takada, Y. Kumai and M. Iida	183	Brain ischemia as a potential target of gene therapy
M. Oettel, D. Hübler and V. Patchev	189	Selected aspects of endocrine pharmacology of the aging male
D. J. Skene and D. F. Swaab	199	Melatonin rhythmicity: effect of age and Alzheimer's disease
P. F. Gasio, K. Kräuchi, C. Cajochen, E. van Someren, I. Amrhein, M. Pache, E. Savaskan and A. Wirz-Justice	207	Dawn–dusk simulation light therapy of disturbed circadian rest–activity cycles in demented elderly
	217	Abstracts
G. Wick	223	Making gerontology popular
W. C. Orr and R. S. Sohal	227	Does overexpression of Cu,Zn-SOD extend life span in *Drosophila melanogaster*?
S. Damjanovich, R. Gáspár, L. Bene, A. Jenei and L. Mátyus	231	Signal transduction in T lymphocytes and aging
L. F. Ferder, F. Inserra and N. Basso	237	Effects of renin–angiotensin system blockade in the aging kidney
R. Wadhwa, T. Sugihara, M. K. Hasan, E. L. Duncan, K. Taira and S. C. Kaul	245	A novel putative collaborator of $p19^{ARF}$
K. Hagopian, J. J. Ramsey and R. Weindruch	253	Influence of age and caloric restriction on liver glycolytic enzyme activities and metabolite concentrations in mice
K. Hagopian, J. J. Ramsey and R. Weindruch	267	Caloric restriction increases gluconeogenic and transaminase enzyme activities in mouse liver
H. Sato and E. Adachi-Usami	279	Accelerated aging of senescence accelerated mice R-1 demonstrated by flash visually evoked cortical potentials
S. A. Devi, S. Prathima and M. V. V. Subramanyam	285	Dietary vitamin E and physical exercise: I. Altered endurance capacity and plasma lipid profile in ageing rats
S. A. Devi, S. Prathima and M. V. V. Subramanyam	291	Dietary vitamin E and physical exercise: II. Antioxidant status and lipofuscin-like substances in aging rat heart
Y. Honma, M. Tani, K. Yamamura, M. Takayama and H. Hasegawa	299	Preconditioning with heat shock further improved functional recovery in young adult but not in middle-aged rat hearts
P. Papazafiri and D. Kletsas	307	Developmental and age-related alterations of calcium homeostasis in human fibroblasts
D. Lio, G. M. Pes, C. Carru, F. Listì, V. Ferlazzo, G. Candore, G. Colonna-Romano, L. Ferrucci, L. Deiana, G. Baggio, C. Franceschi and C. Caruso	313	Association between the HLA-DR alleles and longevity: a study in Sardinian population
H. Iwai, S. Lee, M. Inaba, K. Sugiura, S. Baba, K. Tomoda, T. Yamashita and S. Ikehara	319	Correlation between accelerated presbycusis and decreased immune functions

L. Petit, L. Fogouang, I. Uhoda, S. Smitz, C. Piérard-Franchimont and G. E. Piérard	327	Regional variability in mottled subclinical melanoderma in the elderly
O. L. Griffith, G. E. E Moodie and A. Civetta	333	Genome size and longevity in fish
F. Takeuchi, S. Harihara, K. Nakamura, K. Takubo, M. Kanamori and M. Goto	339	The mitochondrial DNA A3243G mutation in Werner's syndrome
W. Van Voorhies	343	The metabolic rate of *Caenorhabditis elegans* dauer larvae: comments on a recent paper by Houthoofd et al.
M. Hertweck, T. Hoppe and R. Baumeister	345	*C. elegans*, a model for aging with high-throughput capacity
L. Marzban, K. Park and C. B. Verchere	347	Islet amyloid polypeptide and type 2 diabetes
E. Fransen, N. Lemkens, L. V. Laer and G. V. Camp	353	Age-related hearing impairment (ARHI): environmental risk factors and genetic prospects
J.-M. Robine, A. Cournil, N. Henon and M. Allard	361	Have centenarians had younger parents than the others?
R. A. Rabini, A. Vignini, D. Martarelli, L. Nanetti, E. Salvolini, M. R. Rizzo, E. Ragno, G. Paolisso, C. Franceschi and L. Mazzanti	367	Evidence for reduction of pro-atherosclerotic properties in platelets from healthy centenarians
L. D. Mueller, M. D. Drapeau, C. S. Adams, C. W. Hammerle, K. M. Doyal, A. J. Jazayeri, T. Ly, S. A. Beguwala, A. R. Mamidi and M. R. Rose	373	Statistical tests of demographic heterogeneity theories
D. Valour, J. Ochala, Y. Ballay and M. Pousson	387	The influence of ageing on the force–velocity–power characteristics of human elbow flexor muscles
O. A. Ross, R. McCormack, L. D. Maxwell, R. A. Duguid, D. J. Quinn, Y. A. Barnett, I. M. Rea, O. M. A. El-Agnaf, J. M. Gibson, A. Wallace, D. Middleton and M. D. Curran	397	mt4216C variant in linkage with the mtDNA TJ cluster may confer a susceptibility to mitochondrial dysfunction resulting in an increased risk of Parkinson's disease in the Irish
F. Némoz-Bertholet and F. Aujard	407	Physical activity and balance performance as a function of age in a prosimian primate (*Microcebus murinus*)
A. Nogalska, A. Pankiewicz, E. Goyke and J. Swierczynski	415	The age-related inverse relationship between *ob* and lipogenic enzymes genes expression in rat white adipose tissue
J. Takada, H. Ooboshi, H. Yao, T. Kitazono, S. Ibayashi and M. Iida	423	Adenovirus-mediated gene transfer to ischemic brain is augmented in aged rats
S. Ikeyama, G. Kokkonen, J. L. Martindale, X.-T. Wang, M. Gorospe and N. J. Holbrook	431	Effects of aging and calorie restriction of Fischer 344 rats on hepatocellular response to proliferative signals
N. S. Kavok, O. A. Krasilnikova and N. A. Babenko	441	Increase in diacylglycerol production by liver and liver cell nuclei at old age
V. N. Anisimov, I. N. Alimova, D. A. Baturin, I. G. Popovich, M. A. Zabezhinski, S. V. Rosenfeld, K. G. Manton, A. V. Semenchenko and A. I. Yashin	449	Dose-dependent effect of melatonin on life span and spontaneous tumor incidence in female SHR mice
M. Schirmer, K. T. Calamia, M. Wenger, A. Klauser, C. Salvarani and R. Moncayo	463	^{18}F-Fluorodeoxyglucose-positron emission tomography: A new explorative perspective
A.-P. Arrigo and C. Ducasse	471	Erratum to "Expression of the anti-apoptotic protein Hsp27 during both the keratinocyte differentiation and dedifferentiation of HaCat cells: expression linked to changes in intracellular protein organization?" [Exp. Gerontol. 37 (2002) 1247–1255]
C. Schöneich	473	Proteomics in gerontological research

S. M. Harman	483	The Kronos Longevity Research Institute
A. R. Hipkiss	489	Age-related apoptotic dysfunction: any role for polypeptide aspartate instability?
E. O. Uthus and H. M. Brown-Borg	491	Altered methionine metabolism in long living Ames dwarf mice
S. Araki and S. Goto	499	Age-associated changes in the serum level of apolipoproteins A-I and A-IV and the gene expression as revealed by fasting and refeeding in mice
H. Wang, H. Liu and R.-M. Liu	507	Gender difference in glutathione metabolism during aging in mice
A. Del Roso, S. Vittorini, G. Cavallini, A. Donati, Z. Gori, M. Masini, M. Pollera and E. Bergamini	519	Ageing-related changes in the in vivo function of rat liver macroautophagy and proteolysis
A. Vignaud, P. Noirez, S. Besse, M. Rieu, D. Barritault and A. Ferry	529	Recovery of slow skeletal muscle after injury in the senescent rat
C. G. Cho, H. J. Kim, S. W. Chung, K. J. Jung, K. H. Shim, B. P. Yu, J. Yodoi and H. Y. Chung	539	Modulation of glutathione and thioredoxin systems by calorie restriction during the aging process
K. M. Jervis and B. Robaire	549	Effects of caloric restriction on gene expression along the epididymis of the Brown Norway rat during aging
O. A. Ross, M. D. Curran, K. A. Crum, I. M. Rea, Y. A. Barnett and D. Middleton	561	Increased frequency of the 2437T allele of the heat shock protein 70-Hom gene in an aged Irish population
R. E. Thayer, R. Wittock, R. Parr, S. Zullo and M. A. Birch-Machin	567	A maternal line study investigating the 4977-bp mitochondrial DNA deletion
N. Cardinault, J.-M. Gorrand, V. Tyssandier, P. Grolier, E. Rock and P. Borel	573	Short-term supplementation with lutein affects biomarkers of lutein status similarly in young and elderly subjects
C. Murr, U. Hainz, E. Asch, P. Berger, B. Jenewein, M. Saurwein-Teissl, B. Grubeck-Loebenstein and D. Fuchs	583	Association of increased neopterin production with decreased humoral immunity in the elderly
G. Ravaglia, P. Forti, F. Maioli, U. Volta, G. Arnone, G. Pantieri, T. Talerico, A. Muscari and M. Zoli	589	Increased prevalence of coeliac disease in autoimmune thyroiditis is restricted to aged patients
B. T. Ashok and R. Ali	597	Aging research in India
B. R. Troen	605	Molecular mechanisms underlying osteoclast formation and activation
W. A. Van Voorhies	615	Is life span extension in single gene long-lived *Caenorhabditis elegans* mutants due to hypometabolism?
F. Brégégère, Y. Soroka, J. Bismuth, B. Friguet and Y. Milner	619	Cellular senescence in human keratinocytes: unchanged proteolytic capacity and increased protein load
R. de Cabo, S. Fürer-Galbán, R. M. Anson, C. Gilman, M. Gorospe and M. A. Lane	631	An in vitro model of caloric restriction
N. Shigeeda, M. Uchida, J. C. Barrett and T. Tsutsui	641	Candidate chromosomal regions for genes involved in activation of alternative lengthening of telomeres in human immortal cell lines
E. Mariani, A. Meneghetti, I. Formentini, S. Neri, L. Cattini, G. Ravaglia, P. Forti and A. Facchini	653	Different rates of telomere shortening and telomerase activity reduction in CD8 T and CD16 NK lymphocytes with ageing
R. Segal, M. Dayanz, H. Zinger, B. Habut, G. M. Shearer and E. Mozes	661	The effect of IL-12 on clinical and laboratory aspects of experimental SLE in young and aging mice

S. Gangemi, G. Basile, R. A. Merendino, P. L. Minciullo, D. Novick, M. Rubinstein, C. A. Dinarello, C. L. Balbo, C. Franceschi, S. Basili, E. D' Urbano, G. Davì, V. Nicita-Mauro and M. Romano	669	Increased circulating Interleukin-18 levels in centenarians with no signs of vascular disease: another paradox of longevity?
F. M. Norry and V. Loeschcke	673	Heat-induced expression of a molecular chaperone decreases by selecting for long-lived individuals
J. M. Murtha and E. T. Keller	683	Characterization of the heat shock response in mature zebrafish (*Danio rerio*)
V. V. Davydov and V. N. Shvets	693	Age-dependent differences in the stimulation of lipid peroxidation in the heart of rats during immobilization stress
N. Sumien, M. J. Forster and R. S. Sohal	699	Supplementation with vitamin E fails to attenuate oxidative damage in aged mice
H. Chakraborty, P. Sen, A. Sur, U. Chatterjee and S. Chakrabarti	705	Age-related oxidative inactivation of Na^+, K^+-ATPase in rat brain crude synaptosomes
A. Skoumalova, J. Rofina, Z. Schwippelova, E. Gruys and J. Wilhelm	711	The role of free radicals in canine counterpart of senile dementia of the Alzheimer type
M. A. Ottinger, R. E. Ricklefs and C. E. Finch	721	SOSA-2: Introduction to the Proceedings of the Second Symposium on Organisms with Slow Aging
N. Flesness	723	ISIS-a potential source of information on long-lived organisms
T. Perls and D. Terry	725	Genetics of exceptional longevity
E. M. Crimmins, M. Johnston, M. Hayward and T. Seeman	731	Age differences in allostatic load: an index of physiological dysregulation
J.-M. Robine, Y. Saito and C. Jagger	735	The emergence of extremely old people: the case of Japan
R. E. Ricklefs, A. Scheuerlein and A. Cohen	741	Age-related patterns of fertility in captive populations of birds and mammals
M. A. Ottinger, E. Reed, J. Wu, N. Thompson and J. B. French Jr.	747	Establishing appropriate measures for monitoring aging in birds: comparing short and long lived species
D. J. Holmes, S. L. Thomson, J. Wu, M. A. Ottinger	751	Reproductive aging in female birds
D. J. Anderson and V. Apanius	757	Actuarial and reproductive senescence in a long-lived seabird: preliminary evidence
V. Apanius and I. C. T. Nisbet	761	Serum immunoglobulin G levels in very old common terns *Sterna hirunda*
J. D. Congdon, R. D. Nagle, O. M. Kinney, R. C. van Loben Sels, T. Quinter and D. W. Tinkle	765	Testing hypotheses of aging in long-lived painted turtles (*Chrysemys picta*)
P. F. P. Henry	773	The eastern box turtle at the Patuxent Wildlife Research Center 1940s to the present: another view
S. Kishi, J. Uchiyama, A. M. Baughman, T. Goto, M. C. Lin, S. B. Tsai	777	The zebrafish as a vertebrate model of functional aging and very gradual senescence
M. F. Haussmann, C. M. Vleck and I. C. T. Nisbet	787	Calibrating the telomere clock in common terns, *Sterna hirundo*
P. L. Lutz, H. M. Prentice and S. L. Milton	797	Is turtle longevity linked to enhanced mechanisms for surviving brain anoxia and reoxygenation?
V. A. Lance	801	Alligator physiology and life history: the importance of temperature
V. D. Longo	807	The Ras and Sch9 pathways regulate stress resistance and longevity

R. Solana	819	Biogerontology research in Spain
S. Bonnel, S. Mohand-Said and J.-A. Sahel	825	The aging of the retina
C. M. Weyand, J. W. Fulbright and J. J. Goronzy	833	Immunosenescence, autoimmunity, and rheumatoid arthritis
K. Turnheim	843	When drug therapy gets old: pharmacokinetics and pharmacodynamics in the elderly
B. Arosio, S. Perlini, C. Calabresi, R. Tozzi, G. Palladini, A. U. Ferrari, C. Vergani and G. Annoni	855	Adenosine A_1 and A_{2A} receptor cross-talk during ageing in the rat myocardium
A. Terman, H. Dalen, J. W. Eaton, J. Neuzil and U. T. Brunk	863	Mitochondrial recycling and aging of cardiac myocytes: the role of autophagocytosis
U. F. Rasmussen, P. Krustrup, M. Kjær and H. N. Rasmussen	877	Experimental evidence against the mitochondrial theory of aging A study of isolated human skeletal muscle mitochondria
L.-M. Gerland, S. Peyrol, C. Lallemand, R. Branche, J.-P. Magaud and M. Ffrench	887	Association of increased autophagic inclusions labeled for β-galactosidase with fibroblastic aging
C. Selman, S. Kendaiah, R. Gredilla and C. Leeuwenburgh	897	Increased hepatic apoptosis during short-term caloric restriction is not associated with an enhancement in caspase levels
N. Tamaya-Mori, K. Uemura, S. Tanaka and A. Iguchi	905	Aging accelerates dietary lard-induced increase in blood pressure in rats
Q. Ouyang, W. M. Wagner, D. Voehringer, A. Wikby, T. Klatt, S. Walter, C. A. Müller, H. Pircher and G. Pawelec	911	Age-associated accumulation of CMV-specific $CD8^+$ T cells expressing the inhibitory killer cell lectin-like receptor G1 (KLRG1)
A. D. N. J. de Grey	921	Overzealous maximum-likelihood fitting falsely convicts the slope heterogeneity hypothesis
A. Kokaze, M. Ishikawa, N. Matsunaga, M. Yoshida, Y. Sekine, K. Teruya, N. Takeda, M. Satoh, Y. Sumiya, Y. Uchida and Y. Takashima	925	Erratum to "Association of the longevity-associated mitochondrial DNA 5178 A/C polymorphism with serum protein fraction levels is healthy Japanese women" [Exp. Gerontol. 37 (2002) 931–936]
A. D. N. J. de Grey	927	The foreseeability of real anti-aging medicine: focusing the debate
N. B. Metcalfe and P. Monaghan	935	Growth versus lifespan: perspectives from evolutionary ecology
C. Messier	941	Diabetes, Alzheimer's disease and apolipoprotein genotype
K. Houthoofd, B. P. Braeckman, T. E. Johnson and J. R. Vanfleteren	947	Life extension via dietary restriction is independent of the Ins/IGF-1 signalling pathway in *Caenorhabditis elegans*
O. Tirosh, A. Aronis, I. Zusman, G. Kossoy, S. Yahav, D. Shinder, R. Abramovitz and R. Miskin	955	Mitochondrion-mediated apoptosis is enhanced in long-lived αMUPA transgenic mice and calorically restricted wild-type mice
S.-I. Inoue, S. Koya-Miyata, S. Ushio, K. Iwaki, M. Ikeda and M. Kurimoto	965	Royal Jelly prolongs the life span of C3H/HeJ mice: correlation with reduced DNA damage
C. Castillo, M. Cruzado, C. Ariznavarreta, P. Gil-Loyzaga, V. Lahera, V. Cachofeiro and J. A. F. Tresguerres	971	Body composition and vascular effects of growth hormone administration in old female rats
F. Zanni, R. Vescovini, C. Biasini, F. Fagnoni, L. Zanlari, A. Telera, P. Di Pede, G. Passeri, M. Pedrazzoni, M. Passeri, C. Franceschi and P. Sansoni	981	Marked increase with age of type 1 cytokines within memory and effector/cytotoxic $CD8^+$ T cells in humans: a contribution to understand the relationship between inflammation and immunosenescence
M. B. C. Pereira, M. C. F. Traverse, D. M. Barros, A. Bianchini and P. E. Martínez	989	The effects of aging on leukocyte glucocorticoid receptor concentration and response to dexamethasone in dogs

M. A. Kennedy, S. G. Rakoczy and H. M. Brown-Borg	997	Long-living Ames dwarf mouse hepatocytes readily undergo apoptosis
S. Kurotani, H. Umegaki, K. Ishiwata, Y. Suzuki and A. Iguchi	1009	The age-associated changes of dopamine–acetylcholine interaction in the striatum
F. Panza, V. Solfrizzi, A. D'Introno, A. M. Colacicco, C. Capurso, P. G. Kehoe and A. Capurso	1015	Angiotensin I converting enzyme (ACE) gene polymorphism in centenarians: Different allele frequencies between the North and South of Europe
M. J. Forster	1021	Caloric Restriction: a Key to Understanding and Modulating Aging
	1025	Book Review
	1027	Book Review
	1029	Book Review
R. Molidor, A. Sturn, M. Maurer, and Z. Trajanoski	1031	New trends in bioinformatics: from genome sequence to personalized medicine
C. Söti, and P. Csermely	1037	Aging and molecular chaperones
V. N. Anisimov	1041	Insulin/IGF-1 signaling pathway driving aging and cancer as a target for pharmacological intervention
C. Chen, S. Dewaele, B. Braeckman, L. Desmyter, J. Verstraelen, G. Borgonie, J. Vanfleteren and R. Contreras	1051	A high-throughput screening system for genes extending life-span
G. Rose, S. Dato, K. Altomare, D. Bellizzi, S. Garasto, V. Greco, G. Passarino, E. Feraco, V. Mari, C. Barbi, M. BonaFe, C. Franceschi, Q. Tan, S. Boiko, A. I. Yashin and G. De Benedictis	1065	Variability of the *SIRT3* gene, human silent information regulator *Sir2* homologue, and survivorship in the elderly
A. Kokaze, M. Ishikawa, N. Matsunaga, M. Yoshida, Y. Sekine, K. Sekiguchi, M. Satoh, M. Harada, K. Teruya, N. Takeda, Y. Uchida, T. Tsunoda and Y. Takashima	1071	Longevity-associated mitochondrial DNA 5178 A/C polymorphism modulates effects of daily drinking and cigarette consumption on serum triglyceride levels in middle-aged Japanese men
M. P. Muehlenbein, B. C. Campbell, R. J. Richards, F. Svec, K. M. Phillippi-Falkenstein, M. A. Murchison and L. Myers	1077	Dehydroepiandrosterone-sulfate as a biomarker of senescence in male non-human primates
A. Khalyfa, C. M. Klinge, W. C. Hall, X. Zhao, M. M. Miller and E. Wang	1087	Transcription profiling of estrogen target genes in young and old mouse uterus
V. C. Cogger, A. Warren, R. Fraser, M. Ngu, A. J. McLean and D. G. Le Couteur	1101	Hepatic sinusoidal pseudocapillarization with aging in the non-human primate
S. Ma, H. Ochi, L. Cui, J. Zhang and W. He	1109	Hydrogen peroxide induced down-regulation of CD28 expression of Jurkat cells is associated with a change of site α-specific nuclear factor binding activity and the activation of caspase-3
P. Pietschmann, E. Gollob, S. Brosch, P. Hahn, S. Kudlacek, M. Willheim, W. Woloszczuk, M. Peterlik and K. H. Tragl	1119	The effect of age and gender on cytokine production by human peripheral blood mononuclear cells and markers of bone metabolism
N. Traverso, S. Patriarca, E. Balbis, A. L. Furfaro, D. Cottalasso, M. A. Pronzato, P. Carlier, F. Botta, Umberto M. Marinari and L. Fontana	1129	Anti malondialdehyde-adduct immunological response as a possible marker of successful aging
E. Van der Put, E. M. Sherwood, B. B. Blomberg and R. L. Riley	1137	Aged mice exhibit distinct B cell precursor phenotypes differing in activation, proliferation and apoptosis
H. Unterluggauer, B. Hampel, W. Zwerschke and P. Jansen-Dürr	1149	Senescence-associated cell death of human endothelial cells: the role of oxidative stress

L. Zhou, J. Dong, M. Yu, H. Yin and M. She	1161	Age-dependent increase of NF-κB translocation and PDGF-B expression in aortic endothelial cells of hypercholesterolemic rats
L. Willems, B. Garnham and J. P. Headrick	1169	Aging-related changes in myocardial purine metabolism and ischemic tolerance
G. Untergasser, R. Gander, H. Rumpold, E. Heinrich, E. Plas and P. Berger	1179	*TGF*-β cytokines increase senescence-associated beta-galactosidase activity in human prostate basal cells by supporting differentiation processes, but not cellular senescence
P. Gueresi, L. Troiano, N. Minicuci, M. Bonafé, G. Pini, G. Salvioli, C. Carani, L. Ferrucci, L. Spazzafumo, F. Olivieri, G. Cavrini, D. Valentini and C. Franceschi	1189	The MALVA (MAntova LongeVA) study: an investigation on people 98 years of age and over in a province of Northern Italy
M. Muszkat, G. Friedman, H. D. Dannenberg, E. Greenbaum, M. Lipo, Y. Heymann, Z. Zakay-Rones and A. Ben-Yehuda	1199	Response to influenza vaccination in community and in nursing home residing elderly: relation to clinical factors
J. Turner, O. C. Turner, N. Baird, I. M. Orme, C. L. Wilcox and S. L. Baldwin	1205	Influence of increased age on the development of herpes stromal keratitis
E. Bergamini	1213	The Third European Congress on Biogerontology: the Biogerontological Basis of Preventive Medicine and Geriatric Practice
C. S. Atwood, N. Barzilai, R. L. Bowen, H. M. Brown-Borg, D. F. Jarrard, V. X. Fu, L. K. Heilbronn, D. K. Ingram, E. Ravussin, R. S. Schwartz and R. Weindruch	1217	Pennington Scientific Symposium on Mechanisms and Retardation of Aging
Vladislav V. Bezrukov	1227	Dmitry F. Chebotarev is 95 Years Scientist Emeritus, Director of the Institute of Gerontology, Kiev, Ukraine (1961-1987) and Past IAG President (1972-1975)
	1229	View of a young biogerontologist on the in vitro biogerontological model systems
L. Hayflick	1231	Living forever and dying in the attempt
R. B. Effros, M. Dagarag and H. F. Valenzuela	1243	In vitro senescence of immune cells
K. E. Foreman and J. Tang	1251	Molecular mechanisms of replicative senescence in endothelial cells
T. Von Zglinicki	1259	Replicative senescence and the art of counting
M. Wlaschek, W. Ma, P. Jansen-Dürr and K. Scharffetter-Kochanek	1265	Photoaging as a consequence of natural and therapeutic ultraviolet irradiation—studies on PUVA-induced senescence-like growth arrest of human dermal fibroblasts
K. Gosselin and C. Abbadie	1271	Involvement of Rel/NF-κB transcription factors in senescence
V. K. Srivastava and D. L. Busbee	1285	Replicative enzymes, DNA polymerase alpha (pol α), and in vitro ageing
D. Bandyopadhyay and E. E. Medrano	1299	The emerging role of epigenetics in cellular and organismal aging
A. Delacourte, N. Sergeant and L. Buée	1309	In vitro models of age-related neurodegenerative disorders
J. Bird, E. L. Ostler and R. G. A. Faragher	1319	Can we say that senescent cells cause ageing?
S. N. Austad	1327	Introduction to animal models
T. E. Johnson	1329	Advantages and disadvantages of *Caenorhabditis elegans* for aging research

G. S. GERHARD 1333 Comparative aspects of zebrafish (*Danio rerio*) as a model for aging research

J. L. BARGER, R. L. WALFORD AND R. WEINDRUCH 1343 The retardation of aging by caloric restriction: its significance in the transgenic era

H. LIANG, E. J. MASORO, J. F. NELSON, R. STRONG, C. A. MCMAHAN AND A. RICHARDSON 1353 Genetic mouse models of extended lifespan

D. J. HOLMES AND M. A. OTTINGER 1365 Birds as long-lived animal models for the study of aging